Harlan Wood

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What they have lost is in their past. Our job is to help them make a future with what they have left.

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All material in this issue was presented at the Second Scientific Clinical Session of the Physical and Mental Rehabilitation Association held in St. Louis, Missouri, June 3-5, 1948.

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With the growth of our Association it seems only fitting that our Journal too should grow.

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PHIL DAVIS,

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Physical and Corrective Therapy

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Dallas, Ttxas

Discussion of any subject involving overlapping areas of interest is always a potentially dangerous procedure. This is particularly true where interested parties are enthusiastic about their own sphere of influence and tend to assume a protective attitude from the very outset. Therefore, in discussing Physical and Corrective Therapy it is well to be aware of the dangers and conflicts and to make a sincere attempt to be objective in our approach. Objectivity imposes the discipline of being open minded about the problem under discussion; also clear differentiation between fact and fancy and between elemental principles and emotional response.

In this discussion it is not necessary for us to dwell at length on the relationship of Physical and Corrective Therapy to Physical Medicine or to the entire Third Phase of Medicine except to point out the fact that Physical and Corrective Therapy perform a most significant service early in the therapeutic picture as well as continual beneficial effects throughout the convalescent stage.

Terminology at best is somewhat confused and undoubtedly some of the misunderstanding and conflict in previous dissertations on this subject has been due to semantics. For example, when "professional training" is mentioned—the physician is referring to training related to the medical profession such as anatomy, kinesiology, pathology, etc.—While the educator refers to this same group of subjects as "technical training". Both are correct in their terminology but use two entirely different terms to describe identical training or experience. Thus it is necessary that our discussion be very definite as to terminology in order to clarify rather than to further confuse the problem.

With the above qualifying remarks in mind let us turn to a close examination of Physical and Corrective Therapy as it now displays itself.

Corrective Therapy: Corrective Therapy—the newer arrival and hence the less well defined area of therapeutic activity—has, within a few short years, earned for itself a very important sphere of influence. There are few informed physicians indeed who would not freely admit the truly remarkable therapeutic efficacy of well coordinated Corrective and Psychotherapy in our neuropsychiatric hospitals and in the neuropsychiatric sections of our general hospitals.

Likewise, those physicians who have had the opportunity to observe its work are commendatory in their attitude toward the place of Corrective Therapy in the treatment of the chronically ill—such as, hemiplegics, orthopedic cases, paraplegics, and so on. Some of the more progressively minded medical men in tuberculosis are exploring the area of usefulness of Corrective Therapy in the care of the tuberculous patient. Also some of the more foreward looking internists are giving much thought to Corrective Therapy in cardiac disease. Obviously there is much more to be learned in the future than we now know.

Physical Therapy: Physical Therapy—has, over a period of years, established itself as an important adjunct and, in some areas, as an indispensible therapeutic discipline. In the treatment of such well-publicized diseases as poliomyelitis—Physical Therapy has become a household word. Most well-trained orthopedists consider Physical Therapy as an essential adjunct in their therapeutic regimen. In the neuropsychiatric field Physical Therapy has, in many places, become stereotyped—tubs and packs—hydrotherapy crowding out most other phases of Physical Therapy. Yet, in neurology Physical Therapy has gained increasing importance as research has pointed to the value of muscle stimulation and muscle reeducation. In recent years much closer liaison has been established between Physical Therapy and Occupational Therapy so that patients are receiving benefits from both at the earliest practicable time.

Relationship Physical Therapy and Corrective Therapy:—What is the proper relationship of Physical Therapy and Corrective Therapy? Unfortunately this cannot be satisfactorily answered in a simple explanatory statement. Elsewhere we have called attention to the confusion existing and have shown some of the reasons therefor[1] In a recent, and as yet

unpublished statement[2] prepared for the Committee on Physical Education and Recreation in Rehabilitation setting forth a proposed "Platform for Individualized Physical Education in Elementary and Secondary Schools and Colleges", Professor Arthur S. Daniels says: "Correction of remedial conditions should not be attempted without the diagnosis, written recommendation and supervision by a physician. Corrective measures must be predicated upon medical findings and accomplished by medical personnel or specially trained teachers working under medical[1] supervision. "**Physical educators in positions where therapeutic and corrective services are needed should have special training including work in physical therapy.**"

(Bold face is the Author's)

It is clear that Dr. Daniels is calling attention to the need for medical training and experience on the part of physical educators attempting therapeutic activities. Further it seems evident that there must be a close relationship between Physical Education, Corrective personnel and Physical Therapy—with this point of view we heartily concur.

However, we have not yet answered the frequently asked question: "Where does Physicial Therapy stop and Corrective Therapy begin?" In our experience there is no categorical answer to this question. Perhaps we may liken it to the question: "At what age does adolescence begin?" Quite obviously the answer to this latter question is that it depends on the individual case—likewise the relationship betwen Physical Therapy and Corrective Therapy **depends on the individual case!** There are other factors, of course, that also influence the decision; some of these factors are **intangible** such as personality reactions; others are quite **mundane** such as the availability of personnel in relation to the work load.

The only common denominator running throughout the problem under discussion is the matter of professional (medical) experience and training of personnel.

In a paper by Drs. Clarke and Elkins[3] the authors state: "Unlike technicians in Physical Therapy, technicians for reconditioning work should come entirely from the field of Physical Education. Familiarity with the numerous physical and athletic activities and the method of their presentation is essential for technicians in this field." The same authors also state in regard to training:

"The answer to the problem of providing properly trained physical educationists for reconditioning and rehabilitation is postgraduate study at institutions providing specialized programs in this new field. The adequately trained physical educator needs to take more courses in anatomy, kinesiology, physiology and physiology of exercise than he had as an undergraduate and must know their relationship to pathologic conditions. He needs to understand the pathology of the various disabilities he will encounter and the necessity for physical activity in surgical, orthopedic, neurologic and psychiatric cases, he must be thoroughly acquainted with the modalities of exercise, adapted sports, aquatics and recreational activities and should have extensive supervised clinical experience with patients in hospitals and rehabilitation centers. This type of study is not provided in present four year and graduate programs in physical education. Thus, the need for specialized training in reconditioning is evident and will be accepted by well-informed and competent physical educators."[3]

It is unlikely that there can be serious disagreement with this point of view. If adequate training in the several medical and remedial fields mentioned has been attained then the relationship of Physical Therapy and Corrective Therapy should be more easily defined. For many years past—Physical Therapy training has included kinesiology, physiology of exercise, pathology and relationship of Physical Therapy to specific disease entities; it is this training, followed by adequate clinical experence, that has laid the foundation for making a profession of Physical Therapy. Therefore, with equivalent background, training, and experience—Corrective Therapy may also assume professional stature. In other words—part of the present difficulty in relating Physical Therapy and Corrective Therapy is the difference in background and experience of the two groups as a whole. When Corrective Therapy has attained professional stature—the line of demarcation between Physical Therapy and Corrective Therapy will approach the vanishing point with the exception of knowledge of games and sports on the part of Corrective Therapists—a line of demarcation which is somewhat arbitrary and not too well founded. The answer which many of us who are working on this important problem would

like to see, runs something like this: Basic postgraduate training for both Physical Therapists and Corrective Therapists, with **specialized-area** training (Physical Therapy or Corrective Therapy) occupying a major portion of the latter half of the postgraduate training period! If this type of training does eventuate we shall then have **Corrective-Physical Therapists** —men and women who are qualified to do both Physical Therapy and Corrective Therapy on a high professional (medical) level. Obviously, such a change in teaching will call for an open minded attitude by those now engaged in Physical Therapy as well as those engaged in Corrective Therapy.

It is worth while to pause a moment and see what advantages accrue to the therapeutic picture where Corrective-Physical Therapists are available. At the present time, there is mounting interest in the establishment of civilian rehabilitation centers. The several annual reports of the Baruch Committee on Physical Medicine (April 1, 1944-March 31, 1945) have stimulated this interest. Attention of hospital administrators has been drawn to their responsibility in this regard in a book, "Better Hospital Care"[4] published by the Hospital Association of Pennsylvania, to mention only a few. Yet all publications caution against too ambitious a program to begin with. Start small and grow solidly is the well-sounded note of caution. Quite obviously, therefore, if a small center were being established which, at the outset, could support but one Physical Therapist—how much broader the services of such a center could be right from the very start if this one individual were a qualified Corrective Physical Therapist. Utilization of Corrective-Physical Therapists in small civilian general hospitals is also very practical—a "niche of usefulness" which will never be filled by persons whose only qualification is Corrective Therapy.

This discussion would certainly be unfair if the fact were not stated that there are definite situations for "pure" Physical Therapists and "pure" Corrective Therapists. For example, we may point to the military services where an increasingly important adjunct to military medicine is being provided by Physical Reconditioning personnel. The whole field of Corrective Physical Education has been, and will undoubtedly continue to be, a major area of activity for the better trained and sincere Physical Educators who are interested in school health programs and practices. In our discussion of Physical and Corrective Therapy we have been considering a relatively narrow area—namely, the hospital and rehabilitation center needs.

Drs. Clarke and Elkins[3] concluded their paper with the following significant statement:

"A final point of interest that might well be mentioned is that physical reconditioning has attracted men. In the older field of physical therapy, most of the technicians have been women. For example, 94 per cent of the applicants for the course at the Mayo Clinic were women. The choice of the newer field by men should prove a definite asset to physical medicine and rehabilitation."

This leads us to another important consideration bearing on the desirability of Corrective Physical Therapy training: namely—this is a field in which both men and women are needed. For too many years approved schools of Physical Therapy have either discouraged or have refused to accept men for training. It would be equally deplorable if schools for Corrective Therapists were to err in the opposite direction. Disease and injury are not noted for sex-consciousness—why then should we train **females only** in one field, and **males only** in the other? Such a situation is absurd and it is to the great credit of many of the approved schools of Physical Therapy that they are now welcoming male students who have the necessary prerequisites for admittance. Men who are qualified in Corrective Physical Therapy may be expected to share increasingly in leadership in this professional activity at all levels, i.e. in hospitals, rehabilitation centers, and in state and national professional groups—not to the exclusion of the women but in a manner proportionate to the relative numbers engaged. Many of the leaders in Physical Therapy would welcome this strengthening influence.

Another important factor which deserves mention in this connection is the relatively high "mortality" among female Physical Therapists. By this we mean such complicating things as marriage, pregnancy, and family responsibilities. It would be interesting indeed to see the statistics on the number of women who are Registered Physical Therapists and how many of them are still actively engaged in Physical Therapy. Men—on the other hand—become more deeply rooted in their professional work as their family responsibilities increase. This factor should be given more than superficial

consideration. In organizations such as the Veterans Administration personnel changes at too rapid a rate are not only costly in money but worse still, are costly to the quality of medical service available to our veterans.

Finally—there is the question as to the future for those who are now engaged in either Physical Therapy or Corrective Therapy should such a conjoint basic training system be implemented and in the future provide us with qualified Corrective Physical Therapists—what happens to those whose training does not measure up? This is a question which cannot be ignored—nor can it be answered simply. Accepted standards have long since been established for Physical Therapists. Corrective Therapists are not in quite such good shape—a number of forward looking men in Corrective Therapy have already availed themselves of the opportunity to take training in Physical Therapy—more are considering a similar step. There will be some Corrective Therapists, however, whose basic qualifications are not sufficiently high to gain them admittance to an approved course in Physical Therapy.

Unfortunately also there are some stubborn people in both camps who militantly erect walls of "professional jealousy"—these are a small but noisy minority. The only answer which in the long run will be equitable to all concerned is that the medical profession, through such recognized bodies as the Council on Physical Medicine and the Council on Medical Education and Hospitals of the American Medical Association and the many approved schools of Physical Therapy get together with leaders in the field of Physical Education and work out solutions to the broader phases of the program; at the same time considering individual training problems on their own merits. It is encouraging to note that such conjoint—cooperative effort is already in motion stimulated by such groups as the American Physical Therapy Association, the Committee on Physical Education and Recreation in Rehabilitation of the American Association for Health, Physical Education, and Research, The American Congress of Physical Medicine, and the Society of Physical Medicine.

There is an ever increasing need for well-tained and qualified personnel in Physical Medicine—it is our hope that conjoint training may develop soon in order that the need may be met. In Branch Area No. 10 of the Veterans Administration our Physical Medicine Rehabilitation Services are only about 50% of what we consider to be full strength. Pressure for improved, and more numerous, training facilities may quite properly come from professional organizations such as the Association for Physical and Mental Rehabilitation. This pressure should express itself in asserting the needs for clinical training as well as the basic science requirements. A progressive attitude will accomplish greater results than a protective one. It is far too early to start calling attention to our "achievements" in Physical Medicine—we have barely begun to scratch the surface in developing restorative medicine. Surely we may look forward with anticipation of increasing our abilities to serve our fellow men in this new and challenging field of restorative medicine. If our's is the desire to give—rather than to get, to serve rather than to be served—our future is bright and our problems will become stepping stones along the road to more productive living.

1. Trends in Training in P. M. Archives P. M., May 1947, Vol. XXVIII pp 301-303. 2. Report to Committee on Physical Education and Recreation in Rehabilitation.

3. Evaluation of Training of Physical Educationists for Reconditioning and Rehabilitation H. Harrison Clarke, ECD. Earl C. Elkins, MED, Archives of P. M. Feb. 1948, Vol. XXIX No. 2, pp. 99-107.

4. "Better Hospital Care for the Ambulant Patient", 1946.

General Need For Medical Rehabilitation

Eugene J. Taylor, Editorial Staff THE NEW YORK TIMES; Instructor in Rehabilitation and Physical Medicine, New York University College of Medicine; Consultant, Physical Medicine Rehabilitation Service Department of Medicine and Surgery, Veterans' Administration.

Although the focus of attention has been centered on the disabled veteran, the extent of disability among our civilian population is far greater. There were 19,000 amputations among military personnel during World War II, but over 120,000 major amputations during this same period among our civilian population. Approximately 1,500 men were blinded while in military service during World War II, but 60,000 civilians lost their sight during this period. Some 265,000 men were permanently disabled as a result of combat injuries during the war, but 1,250,000 civilians were permanently disabled by disease and accidents in the corresponding four years.

There are some 23,000,000 persons in the United States handicapped to some extent by disease, accidents, maladjustment or war. One-third of all draftees were rejected as physically unfit and more than 1,000,000 had to be discharged shortly after induction. In 1946, 10,400,000 persons suffered disabling accidents, and of these, 370,000 were disabled permanently. It is estimated that there are over 7,000,000 persons in the United States disabled by diseases of the heart and arteries, 6,850,000 from rheumatism and arthritis, and 2,600,000 from orthopedic conditions.

Typical of the results obtained in the Veterans Administration Medical Rehabilitation Service is a study of 130 chronic neurological patients in one hospital all but two of whom were World War I veterans and many of whom had not been out of bed in ten years. After 9 months of medical rehabilitation, 25 had left the hospital and were employed, 40 others had been discharged to their homes capable of light work, and of those remaining, 30 were ambulatory and undergoing advanced rehabilitation and 25 were capable of some self-care. All but ten of the group had shown some worthwhile permanent improvement. With a five-year life expectancy of these patients and a per patient day hospitalization cost of over $12.00, rehabilitation of this one group has saved the government, and eventually the taxpayer, over $1,250,000. It would seem logical that a similar program for the civilian chronically ill would result in comparable savings.

The experience of the Federal Office of Vocational Rehabilitation has also shown how rehabilitation pays off economically. During 1944, 43,997 persons underwent rehabilitation under the joint federal-state vocational rehabilitation programs. Of this group, 22% had never held jobs, and 90% were not employed at the time they started rehabilitation. Their average annual wage after rehabilitation was $1,768 as compared with $148 before. Many had been on public assistance at a cost of $300 to $500 annually, but the cost of their rehabilitation was but $293 per case, a single rather than annually recurring expenditure.

A significant advance made in rehabilitation during the war and the immediate post-war period has been the increased recognition given to medical rehabilitation as an integral part of medical care. Just as satisfactory job placement is the capstone of any successful program of services to the handicapped, medical rehabilitation, starting at the earliest possible moment following acute illness or surgery, is the foundation, for all subsequent rehabilitation processes are built upon the residual physical disability which medical care cannot eliminate.

Unfortunately, until the advent of World War II, medical care and vocational rehabilitation were too frequently considered as separate and distinct processes having little relationship to each other. That the two are interdependent and inseparable has been demonstrated by the successful programs in the military and veterans' hospitals and has been recognized in civilian rehabilitation by the enactment of the Barden LaFollette Amendment which expanded the Federal-State Vocational programs to include physical restoration and medical care.

During the past several decades, the fields of preventive medicine and definitive medicine and surgery have made tremendous advances, but "the third phase of medical care"—medical rehabilitation—which takes the patient from the bed to the job, has been neglected. Such a program might better be termed Dynamic Therapeutics in Chronic Disease.

Though it would seem logical that medical rehabilitation would be an important service in

every civilian general hospital, there has been little or no attempt, until recently, to establish such programs in civilian hospitals. Of the 1,468,714 hospital beds in the United States in 1946, 44% were in general hospitals, but these 641,331 beds cared for over 92 per cent of all patients. Rehabilitation, in varying degrees, has been available in some tuberculosis, mental and other specialized hospitals, but little provision has been made for dynamic convalescent care and rehabilitation for the over 14,000,000 persons who are patients in general hospitals each year.

The first comprehensive total medical rehabilitation program in any community hospital in this country has recently been inaugurated at Bellevue Hospital in New York. Operated under the professional direction of the Department of Rehabilitation and Physical Medicine of the New York University College of Medicine, the service has bed facilities for 80 patients and offers a program of physical medicine, physical therapy, occupational therapy, corrective physical rehabilitation, social service, corrective speech, psychological services, vocational guidance, education and planned recreation. It operates as a service department to the other departments of the hospital in much the same manner as the x-ray and laboratory, and treats both in-patients and out-patients on reference from the other services of the hospital.

The rehabilitation service in Bellevue Hospital, which will be enlarged to 600 beds when presently-planned construction is completed, is the first step in a plan by the Department of Hospitals of the City of New York to provide all patients in municipal hospitals of the city with medical rehabilitation services. The extent to which this rehabilitation has entered into future planning in New York City in both public and private hospitals is shown by a recent report of the Hospital Council of Greater New York, in which it was suggested that 25 per cent of the bed capacity of the city's general hospitals should be allocated for convalescence and rehabilitation. This would mean one such bed for each 1,000 of the city's population.

The interest in extending medical rehabilitation services in general hospitals is not limted to New York or other large urban areas. The Veterans Admnistration has recently established such services and major departments with specified bed allocations in all Veterans Administration hospitals. Today, there are approximately 150 communities in the nation which have expressed interest in establishing rehabilitation services either independently or in conjunction with existing hospitals, medical schools or community agencies.

A growing problem which now occupies much of your attention, and will occupy even more in the future, is that of chronic disease. Today, as medical science moves forward in the prevention and cure of infectious disease, chronic illness has become the nation's primary medical problem. In 1900, for example, seven chronic diseases (cancer, intracranial lesions of vascular origin, disease of the heart, diseases of the arteries, cirrhosis of the liver, and acute and chronic nephritis) were responsible for 25.7 of all deaths in New York State. Between 1900 and 1940, a period in which the population of New York State increased by 85 per cent and the total number of deaths increased by only 13 per cent,, the number of deaths from this group of chronic diseases increased by 200 per cent, and now cause over two-thirds of alll deaths in the State.

These figures, alhtough for the State of New York, are probably typical of the increasing incidence of chronic disease nationally. Whereas diabetes ranked 27th and arteriosclerosis 34th nationally as causes of death in 1900, they were 8th and 10th in 1944. Added to these mortality rates is the tremendous long-term toll of chronic illness and disability. Acute infectious disease usually results in rapid recovery or death, but chronic illness may linger for years. Its social and economic costs cannot be measured by mortality tables alone.

One of the principal causes of the increasing prevalence of chronic disease has been the great advances in medical and surgical care which have prevented death and produced an aging population. A thousand years ago, the average length of life was 25 years; at the turn of the century it was 49; today it is 66. In 1900 1 person in 25 was 65 years of age or older; it is estimated that in 1950, the ratio will be one in ten. The chances are now two out of three that a young man starting his working life at the age of 18 will live to his retirement age of 65. A 45 year old man today has 70 in 100 chances of reaching the age of 65, and the chances of a 55 year old man are 87 in 100. White men now at the age of 65 can expect to live an additional 12 years

on the average, and white females an average of 14½ years.

One of the great implications of this aging population is in medical care, for, as people become older, their medical needs change and they demand more service. In 1940, the 26.5 per cent of the nation's population over 45 required over half the nation's medical service. By 1980, it is expected that the number of persons over 45 will constitute nearly half of the population. Unless medical facilities and services are increased, or effective preventive measures taken, there simply won't be enough medical service to go around.

Of all the specialized groups for which the growing incidence of chronic diseases holds special significance, there is none which will affect more than the Veterans Administration. As the great majority of the present beneficiaries of the Veterans Administration were inducted into the military services through selective service, they represent, by and large, an average cross section of the civilian population of comparable age groups, and although they were originally subjected to a physical screening, they can be expected eventually to have approximately the same incidence of chronic disease. But as the approximately twenty million veterans in this country represent a static population, which is daily increasing in age, the potential problem of chronic disease among this particular group becomes appalling.

As pointed out in the Report of the Administrator of Veterans Affairs for the fiscal year 1947, there will be almost as many World War II veterans alive (3,404,000) at the turn of the century (2000) as there were World War I veterans (3,727,000) on June 30, 1947. The average age of the World War II veterans then, however, will be nearly 78 years, as compared with an average today of 55 for World War I veterans and 72 for Spanish-American War veterans. The increased need for both personnel and facilities in corrective physical rehabilitation in the teaching of the daily activities of self care which this tremendous case load will bring, are obvious, both for VA hospitals and domiciliary homes.

Concurrently with the increase in case loads that this increasing age level will bring, will be a necessity of changing some of our goals in rehabilitation. Vocational rehabilitation is an outgrowth of World War I, whereas most of our concepts of medical rehabilitation are based on experience resulting from World War II. Vocational rehabilitation being the older of the two, it is logical that many persons still cling to the concept that the sole goal of rehabilitation is the placing of the individual in a job. This, however, is not the only valid criteria of rehabilitation. The factors of self-care, and the ability to do productive work while still living in a hospital, home or other adult institution, are also valid objectives, medically and socially, for their effect on the well-being of the individual, and economically, in that the personnel and operating costs of the institution are thereby reduced.

During the past three years since the war's end, tremendous advances have been made in medical rehabilitation, both in techniques and methods, and the development of facilities. This "third phase of medicine", which takes the patient from the bed to the job, is but a seedling, however, compared with the older fields of preventive medicine and curative medicine and surgery. Properly nurtured and developed, it can mean the difference betwen dependence and independence for the millions of Americans who are physically disabled.

Personality Study Outline For Corrective Therapists

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Introduction

Two years ago we held the first Corrective Therapy Course at the Winter Hospital in Topeka. Among the students attending that course as well as the second one, I found many alert, energetic, ambitious, dynamic men who were completely convinced that the work they had chosen was of great importance. Since that time, I have often wondered what happened to them when they returned to their stations. I wondered whether the dynamic energy and positive attitudes continued or whether these qualities gradually disappeared and, instead, an attitude of laissez-faire developed toward their work. I wondered how many found the rejection of their programs by managers, clini-

cal directors, ward physicians, and other staff personnel more frustrating than they could possibly stand. I frequently wondered how some of them reacted to their successes as well as to their failures; how those who were the recipients of racial and religious intolerance were able to adjust. I wondered how many found this work emotionally too upsetting and as a result left the field, or have decreased in their efficiency.

Perusing still further, I began to wonder why physical educators who had been primarily interested in activities for the healthy, normal individuals should suddenly shift their interest to the field of the physically and emotionally sick people. Why would people who worked in community centers, schools, colleges, and in the armed forces want now to work in hospitals? What gratifications and satisfactions were derived from working with the sick people? And lastly, what type of personalities entered this special field? I couldn't answer these questions then, nor can I do so now; but, instead, I am searching for clues. Therefore, I thought it desirable to take a good look at the men in this special field, particularly their backgrounds and personality characteristics, to determine whether any common factors appear which might serve as a basis for the future planning and development in this field of work.

By carefully studying the personalities that are in the field of corrective therapy now—their assets, their liabilities, their potentialities, their short-comings—we might then be able to predict the type of person who would be most suitable for this type of work. Therefore, I am suggesting the following personality study outline, which I hope you will fill out. Perhaps through the help of the members of this organization we can establish a preliminiary research study. Later we might be able to obtain money for a more complete research study in the total field of corrective therapy.

Personality Study

I. Background of the Individual
  A. Socio-economic level of parents
    1. Income level
      a. Lower group
      b. Middle group
      c. Upper group
      d. Change in income level—upward or downward
    2. Nationality
      a. Foreign born
      b. First generation American
      c. Second generation American
      d. Third generation American
    3. Religion
      a. Catholic, Protestant, Jewish, other groups
      b. Parents' attitude toward religion
        (1) Over-religious
        (2) Religious
        (3) Not religious
      c. Parents of same or different religions
  B. Community or communities
    1. Type in which you lived
      a. Urban
      b. Surburban
      c. Rural
      d. Any combination of these
    2. Opportunities for:
      a. Organized recreation
      b. Organized social activities
  C. Parental home
    1. Size, space, and location of home (s)
    2. Presence or absence of grandparents or other relatives
      a. When you were very young
      b. After you were an adolescent
    3. Parents
      a. Two-parent home
      b. One-parent home
      c. Natural or adopted parents
      d. One parent died or left the home when you were 1-5-10-15-20
      e. Two parents died or left you when you were 1-5-10-15-20
      f. Institutional placement early in life
    4. Parental attitude toward children
      a. Wanted or didn't want children
      b. Showed affection or dislike for children
      c. Shared responsibility for rearing children
      d. Agreed or disagreed on rearing children
    5. Children in family
      a. Number of full brothers and

sisters
b. Number of half brothers and sisters
c. Your position—oldest, middle, youngest
d. Your position — favorite, "one of group", rejected
e. Assets of each sibling

6. Parental attitudes toward education
a. Encouraged or discouraged you to go beyond the 8th grade
b. Encouraged general or technical education
c. Made sacrifice for your education
d. Gave basic sex instruction or discouraged talking about the subject

D. Education
1. Elementary school—public or private
a. Position in class
b. Subjects liked
c. Subjects disliked
d. Subjects yielding best grades
e. Subjects yielding poorest grades
f. Activities
g. Clubs joined—offices held
h. Hobbies
i. Teacher most admired

2. Junior or senior high school
a. Position in class
b. Subjects liked
c. Subjects disliked
d. Subjects yielding best grades
e. Subjects yielding poorest grades
f. Activities
(1) Social
(2) Clubs and fraternities
(3) Athletics
(4) Hobby interests
g. Outside work while going to school

3. Teacher training school, teacher's college, general college
a. Position in class
b. Subjects liked
c. Subjects disliked
d. subjects yielding best grades
e. Subjects yielding poorest grades
f. Activities
(1) Social
(2) Clubs and fraternities
(3) Athletics
(4) Hobby interests
g. Outside work while going to school
h. Entirely self - supporting; partly supported by parents, wife, or others; entirely supported by parents
i. Married while at college
j. War interrupted college career
k. Degree or degrees obtained

E. Work record
1. First job or position and how long held
2. Different kinds of work done
3. Reasons for changes in position
4. Sense of responsibility
5. Attitudes toward work
a. Reliable
b. Ambitious
c. Lazy
6. Work best without constant supervision

F. Home you have established
1. Single and living with parents, other relatives, or alone
2. Married and living with parents, wife's parents, other relatives, or in a home or an apartment of your own
3. Marital partner from the same socio-economic group
4. Marital partner with less, equal, or more education than you have
5. Marital partner working and making less, equal, or more money than you
6. Marital partner of same religious group
7. First or second marriage for either one.
8. Children from a previous marriage
9. Children from present marriage

G. Conscious reasons for selecting this work

1. Forced into it by pressure or desire of parents
2. Least distasteful of all fields open at time decision was made
3. Missionary spirit—to help others
4. Desire for community recognition
5. Crystalized thinking and planning as result of war experiences
6. Sports and recreation easy for you during your school years
7. Seemed to be a lucrative field with some security
8. Other reasons not indicated above

II. Personality Characteristics

A. Physical
1. Physical defects—kind, type, when developed, and what was done about them
2. Personal appearance
   a. Stouter or thinner than your age group in school, in playground, at work
   b. Taller or shorter than your age group
3. Illnesses
   a. Organic or functional illnesses
   b. Frequency
   c. Attitude toward illnesses
      (1) Parental
      (2) Personal

B. Motility
1. Energetic or lackadaisical
2. Good or poor coordination
   a. Upper extremity
   b. Lower extremity
3. Individual skills—hunting, fishing, hiking, mountain climbing, skating, skiing, cycling, flying
4. Activities of speed, endurance, or strength preferred
5. Under tension—cool, excitable, uncontrollable

C. Emotional reactions
1. Easily excited, well balanced
2. Hypersensitive or hyposensitive
3. Easily angered
4. Special fears or phobias
5. Fears about psychiatric patients
6. Fears about general medical or surgical patients
7. Overly sentimental toward sick people

D. Attitudes toward:
1. Success in school, in home, or work
2. Failures or disappointment in school, in home, or work
3. Sex before marriage, after marriage
4. Children before marriage, after marriage
5. Those from a different country
6. Those of a different religion
7. Those of a different group
8. Those who are in poor physical condition
9. Those who are psychotic
10. Those who are neurotic
11. Those who are amputees
12. Those who are hemiplegics, or paraplegics
13. Those who are slow to learn
14. Those who supervise you
15. Those you supervise
16. Those on equal footing
17. Those who are "muscle men"
18. Those who are artists, poets, writers, etc.

E. Interpretation of:
1. Honesty
2. Responsibility
3. Sportsmanship
4. Wealth
5. Faithfulness.

F. Summary of assets and liabilities—indication of kind of person you think you are.

To fill out this outline properly will require a great deal of time and energy, and perhaps the recall of painful experiences. Some of you may refuse to fill out the outline, others may only indicate their good qualities, still others may list only their shortcomings, while still others may fill out the outline in great detail. No matter what you do about it, you give indications of your personality.

If this material is gathered, studied, and analyzed, we should have a better and more scientific understanding of the personalities in this work. This information should be helpful in the future development of corrective therapy as well as the Association of Physical and Mental Rehabilitation.

College Physical Education For The Veteran With A Disability

PROFESSOR ARTHUR S. DANIELS

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Introduction

A year ago (1946-47) there were almost a million veterans attending college throughout the country. There has been only a slight decrease during the current year in veteran college enrollment. Figures are not available regarding the number of these men who have service-incurred disabilities. At the Ohio State University approximately 6-8% of entering freshmen were revealed through the health examination as having disabilities requiring special consideration. Two-thirds of this group have been veterans. Furthermore, experience has shown that these men may be greatly benefitted through a carefully designed individualized physical education program which is closely coordinated with University medical and other campus services.

At the Ohio State University veterans are not automatically excused from physical education. Military experience is evaluated by criteria established by the Department of Physical Education and the University Registrar. Where the equivalent in physical education was experienced in the service, some credit (one to three quarters) is granted. When a veteran is under medical observation or has a condition in which physical education is contraindicated, his physical education may be deferred one or more quarter, or he may be permanently excused. Permanent excuses are rarely given. Responsibility for the decision in each case, rests with the Medical Adviser and Counsellors in the Department of Physical Education.

As the program at The Ohio State University is described it will be readily seen that it represents an additional step toward complete rehabilitation or adjustment of the veteran. In this sense, the program represents an extension of the services originating in military and Veterans' Administration hospitals. A veteran may have apparently made a fair adjustment to his condition in a hospital environment. On a college campus and with a so-called normal social group he may find his adjustment inadequate. Many veterans have voiced their appreciation and pleasure upon finding at a University the considerations and type of program designed to meet their needs.

Numbers Aided in the Program

Since the Fall quarter of 1945 there has been an average enrollment of 300 men per quarter in the individualized physical education program. An average of twenty-five classes have been offered for these men each term. The nature of these classes will be described later.

Kind of Disabilities

The nature and number of the disabilities encountered since the Fall quarter of 1945 are as follows:

Condition	Frequency
Psychological	105
Neurological	123
Respiratory	97
Ariculatory	419
Gastro-Intestinal	10
Genito-Urinary	10
Endocrine	10
Skin Condition	63
Musculo-Skeletal	1316
Diseases	108
Surgical Condition	231
Low Physical Vitality	22
Others not listed above	153
Total	2657

Staff Facilities and Equipment

Four full-time members of the staff had extensive physical reconditioning experience in the military service. In addition, each year there have been available one or more graduate assistants with this same type of experience. Each term from three to five staff members participate in the program. Valuable relationships from University Health Service medical personnel, the Department of Physical Medicine of the Medical College, Veterans Administration representatives on campus and the Deans of the various colleges have made possible most complete services to veterans.

Facilities available are considered adequate. Both special and general physical education facilities are used. In addition to the standard

courts and diamonds there are available: Fifty tennis courts; two eighteen hole University golf courses; three swimming pools in our Natatorium, 75' x 45'; 75' x 36'; 30' x 20'; casting platform on a small pond at the golf course; a small gymnasium 50' x 90'; a special exercise room 35' x 75' completely equipped with remedial and developmental apparatus; two special conference and examining rooms; classrooms and complete visual aid equipment plus a growing departmental film library.

All sports equipment is furnished students. This includes tennis racquets, tennis balls, badminton racquets and birds, archery tackle, golf clubs and golf balls, bait and fly casting tackle. We have over $700 worth of fishing tackle alone, just for the individual program.

How the Individualized Program Functions

Admission

This program is open to students who, because of some disability, may not safely or successfully engage in the vigorous activities of the general physical education curriculum. Students are assigned to the individual program by the Medical Adviser and counselors from the Department of Physical Education for Men. Recommendations for assignments are also received from the University Health Service, Deans of the various colleges and Veterans Administration campus representatives.

Requirements

The requirement in the individual program is the same as for courses in the general service curriculum; namely, three quarter hours of credit with a grade of D or better. Because of the nature of individual needs and the unusual opportunity for meeting them through activities of therapeutic, developmental, recreational, adjustment, and resocialization value, the quarter hour requirement becomes a secondary matter. A considerable number of students continue in the program beyond the normal requirement.

Purpose

The individual program is designed to:

1. Provide an opportunity for normal social development through recreational sports.
2. Protect the condition from aggravation by acquainting the student with his limitations as well as his capacities and designing a program in which he can engage safely and successfully.
3. Provide an opportunity for the development of skills in recreational sports and favorable attitudes toward their use within the limits of disability.
4. Aid in the adjustment and/or resocialization of the individual when the disability is permanent.
5. Provide an opportunity for the development of organic power within the limits of the disability.
6. Accomplish needed improvement for functional postural and general debility conditions.
7. Contribute to economic security through the maximum development of function and increased ability to meet the physical demands inherent in daily living.

Procedures

The administrative machinery for conducting the individual program is briefly outlined below:

1. Health examination. Administered to all incoming men students by the Department of Physical Education with the assistance of the University Health Service and personnel from the College of Medicine and School of Optometry.
2. Classification of physical education based on the health examination. The two major classifications are for the general physical education program and the individual program.
3. Conference with students needing special consideration. At this conference of medical adviser, physical education counselor, and student, the medical findings are interpreted in terms of physical education, students' interests, limitations and capacities are explored. Other important purposes of the conference are to establish rapport with the student and gain his confidence; to determine the best means of improving functional disabilities; to provide a safe basis for the work of each student. Many come to the conference seeking a permanent excuse. They usually leave, scheduled for a program and stimulated by the thought that doors to fuller living may not be as tightly closed as they believed.
4. Scheduling. On the basis of the medical findings and conference, the students program is arranged. Criteria used for scheduling are improvement of temporary disabilities, adjustment for permanent disabilities, selection of an activity the student can do safely and successfully. It goes without saying that student interest in the activity is also a criterion.

5. Scope of the program. Involves three areas:

a. Special conditioning—consisting of specific or general developmental exercises depending on student need. These exercises are selected to improve range or motion; increase muscle power; preserve function; improve coordination; step up metabolism; reduce or remove postural deviations; increase general strength and endurance follow-lowing prolonged or acute illness.

b. Aquatics—standard aquatic activities are selected to meet the remedial, adjustment, recreational and socialization values as related to student needs. In all instances where a sport will accomplish desired ends, it is chosen in preference to exercises. Students are moved as rapidly as their improvement warrants, from special exercise sections to sports sections.

The sports offered in the individual program are

Archery
Archery Golf
Badminton
Bait and Fly Casting
Bowling
Fencing
Golf-Beginning
Golf-Advanced
Handball
Shuffleboard—Table Tennis
Softball
Special Conditioning
Squash
Swimming—Beginners
Swimming—Elementary
Swimming—Intermediate
Tennis—Beginning
Tennis—Advanced
Volleyball

6. Evaluation of Progress. Accomplished through continual observation; individual conferences; special consultations; social and hygienic standards of behavior exhibited in class participation; use of selected measures of function and strength; skill tests; achievement tests; knowledge tests. The grading plan is designed from the above items and is designed to measure the extent to which a student achieves his objectives within a specific course. Objective measures are used wherever they are applicable. Flexibility is one of the characteristics of the grading plan.

7. Records. Only one record form in addition to the records generally kept for all students appears necessary in the individualized program. This is a folder containing a description of the condition, the student's program objectives, his program controls (things he should avoid), recommended program, record of special treatments and consultations, progress rating and general comments and recommendations.

8. Relationships. The individual program seeks to utilize all the University resources in aiding students with disabilities to acquire a general educaton and overcome a handicap; to live most with what they have to live with. Toward this end, the medical adviser in the Department of Physical Education, the University Health Service, Department of Physical Medicine, College of Medicine, Veterans' Administration representatives on campus, Deans of the various colleges and the Occupational Opportunities Service have been most cooperative.

There is a constant referral service maintained with the University Health Service and their staff of specialists. Relationships with the Veterans Administration representatives are through the media of office conferences, correspondence and reports. The medical skill, technical services, and modalities of The Department of Physical Medicine have been available as needed. The Deans of the various colleges have shown keen interest in the program and have cooperated to the fullest extent with all requests. Finally, complete administrative freedom has been granted by the chairmen of The Department of Physical Education for Men and the Director of Athletics

Results of the Program

The most enthusiastic supporters of the program are the students themselves. This is understandable. They are the direct beneficiaries of the gratifying results. Very often, veteran students request permission to continue with physical education beyond the three quarter requirement. Permission is always readily granted.

One veteran who regained full range of motion in a knee injured by a shell fragment wanted to know if the Army and the Veterans' Administration knew about the program. If they didn't he felt they should be informed.

He was very happy because he had gained full range of motion after getting along with limited movement for over a year.

Another veteran who had been severely raked by machine gun fire, couldn't flex his right elbow against gravity and had a weak and flabby abdominal wall after the healing of the wounds. After three quarters of work he could flex the elbow many times holding a ten pound weight, his abdominal wall had been greatly strengthened and in addition, he had learned to swim. One veteran with a penetrating chest wound asked if we could speed up the work on increasing range of motion in his shoulders. His reason—so that when he put his arm around his girl (now his wife) he could hold it up where it belonged and keep in good standing.

One could go on describing case after case in which function has been regained, strength restored, and above all, attitudes of defeat, uncertainty, and the fears of insecurity replaced by confidence for the future. On leaving one of the classes recently, a young former Air Force Pilot said, "Don't think because we may not thank you each time we come that we don't appreciate what is being done for us."

In the easy informality of these groups in individual physical education many new friendships have been formed by veterans who expected to return to school and find themselves in a sympathetic but not very understanding environment. And they are pleasantly surprised.

As one looks at individualized physical education and the general program, the realization grows that they are not separate and distinct entities within the physical education curriculum. Rather, they are part of the total educational services offered to students. They have the same aim; maximum development of each student. Whether or not individualized classes become segregation or homogeneous grouping is largely dependent upon the manner in which they are administered. If they are given a label which indicates the students therein are subnormal or abnormal and class work consists primarily of calisthenics or corrective exercise, then such classes may be regarded as segregation. If, however, these classes do not have a label branding their members as inferior and they permit normal growth and social development through a wide range of experiences available to other students, but within the limitations and capacities of the disability, they may be more properly regarded as homogeneous grouping.

The students in the program described here do not regard themselves as inferior. Neither do they regard the individual physical education program as a concession to the subnormal. As a matter of fact, they consider themselves better off than the average student in the general service program because of the highly individualized treatment they receive. They have commented favorably on this point time and time again.

Basic Values of the Program

1. Students become intelligent regarding the nature of their condition. They are aided in establishing goals capable of being reached. They learn how to protect the condition from being aggravated. In cases of permanent disability their adjustment is more readily achieved through acquiring sports skills and knowledges which permit them to engage with reasonable success in sports within the limits of their disability.

2. Psychological and social values are apparent in the restoration of confidence gained through improvement or adjustment; through the development of a feeling of security from a return of normal function and increased capacity for recreational and vocational activities. Resocialization also results from the making of new friends in the small, informal groups.

3. It is believed that favorable student attitudes toward participation in recreational sports as a means of richer and more complete living is definitely accomplished. . . . . "For me, swimming has opened up a new world. I have learned to do something I always thought would be impossible." . . . . . "Since my course in casting, I never go by a sporting goods store without looking at the fishing tackle. I aim to do some real fishing this summer." . . . . "Archery is not the sissy sport I thought it was. I now have a new hobby."

In many instances the skills learned are not the most important outcome of the physical education experience. The adjustment, new feelings of confidence and security, and a brighter attitude toward the future are the real values. The skills were the medium; the means toward larger social ends.

Conclusion

Rehabilitation is not a problem solely confined to veterans and the Veterans Administration. Most of you are probably acquainted with the statistics regarding disabilities among the civilian population resulting from accidents and disease. Indeed the problem of rehabilitating the veteran is small in comparison with the same need within our civilian population. Thousands of disabled are children, with cerebral palsy, poliomyelitis, tuberculosis, accidents and heart disease being major causes of disabling conditions.

There is an urgent need for an expanded program of individual physical education in our elementary and secondary schools and colleges. Most youngsters with disabling conditions are excused from physical education and sent to study halls. They are denied the opportunity of normal development within their limitations. They are doomed to watch. One of our students with both legs paralyzed since the age of three, upon learning how to swim, asked, "Why did I have to wait all these years to find out I could be like others? Why was I always sent to study hall when the others went out to play?" The strength and influence of this association is needed in the efforts to provide adequate educational opportunities in our schools and colleges, for students with disabilities. It is hoped that some of you with your fine training and experience, will ultimately find your way into the school systems and colleges as supervisors and teachers of individualized physical education.

The Association is to be congratulated for the outstanding service its members are rendering to disabled veterans. I am sure that the high professional standards evidenced to date will be maintained and the goal with which new ideas are pursued will not diminish.

What Can We Do About Postures?

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How long teachers and doctors have been concerned with the postures of their charges, I do not know. It is quite possible that Socrates and Confucius let their disciples assume any poses they chose during disputations, but I have every reason to believe that "elementary school teachers" in the ancient world were as strict as ours about how boys (it was only boys then) sat at their writing boards and during recitations. They thought good posture was good for health as well as morals. Doubtless men of "medicine" supported them. So there must be something worthwhile in the subject of posture.

Fun-making aside, even if postures are only esthetically important or only expressive of success or failure in life, they are worth considering. You can all remember being admonished to "stand up tall", "hold the shoulders back", pull in the stomach". All your life someone has been ready to criticize you if you slipped from the path of virtue. We, as teachers of physical education, thinking we were acting upon the advice of physicians, have been among the moralizers. During our own lifetimes, reams have been written on this subject for professional and semi-professional journals. Perhaps some of it has been worthwhile. Can that part be found?

About 1910, Jessie H. Bancroft, then Assistant Director of Physical Training in the Public Schools of New York City, devised a so-called vertical line or pole test for measuring postures.[1] She claimed that the long axes of the head and neck and of the trunk follow vertical lines. To assist the eye in determining these points, a line may be dropped from the front of the ear to the forward part of the foot; it will be seen to parallel the axes of these large segments of the body. The idea had nothing to do with poles. Miss Bancroft was not selling poles. Her idea was that items like holding back shoulders or holding in abdomens were not important in themselves but that it was important for the body to be as erect as possible, with the main masses of the body balanced one above the other.

In the decade immediately following the publicizing of this test, Dr. Joel Goldthwaite[2] began his crusade within his own, the medical

profession, to place emphasis upon the relation of posture to health. He put a great deal of attention upon the lower back. He was supported by European observers, who even found exagerated lumbar curves to be associated with albuminuria.[3]

Dr. Goldthwaite also emphasized the stresses and strains that develop within the muscular and skeletal structure when any single joint is not functioning properly. One may not agree with his thesis that ill health specifically is caused by poor posture,[4] but one is grateful that he has placed emphasis upon the spinal curves, no matter what his specific instructions and devices are for correction; and has stressed the inter-relations between the various weight-bearing joints. The advantages of good postures are still real if they are primarily esthetic or are related only to greater comfort and efficiency of movement.

Neurophysiologists, as well as anatomists, have had somethings to teach us about postures. One who should have our particular respect is Charles Sherrington, of London, who first described the extensor or anti-gravity reflex that explains so much about the activity of the muscles that are responsible for erect carriage.[5] Two observers whose own clinical practices have taken advantage of concepts like Sherrington's are F. Matthias Alexander of London,[6] and Royal Haynes[7] of New York.

Another basis for which we can be grateful was publicized by Phelps and Kiphuth about 1930.[8] It is the anthropological concept that man is evolving from lower forms, and is due to have certain stresses and strains that can be explained by his development past. When it comes to exercises to help an individual to achieve the truly "human" posture, it may be necessary to recapitulate, as it were, certain types of activities which characterize the more common means of locomotion in "lower" forms; creeping and hanging for example.[9]

The latest emphasis to challenge our thinking about what causes poor posture may also be called anthropological. It relates to the characteristic body build of the individual whose posture is under review. The most recent and most challenging concepts regarding human physique have come from the laboratories of William H. Sheldon.[10] The corrective therapist who expects a person who is "asthenic", or mainly ectomorphic in Sheldon's terms, to carry himself as erectly as an "athletic", or more mesomorphic individual, is due for a great many disappointments.

If these few emphases—posture in the standing position as judged by the balance of structural weights, the trunk as the part of the body whose "postures" are most related to health, the static relation of joints to each other, certain reflexes as integrating the neuro-muscular system for the erect posture, the human animal as an example of ontogeny repeating phylogeny, and yet as a unique creature with a characteristic physique determined mainly by uncontrollable factors—have added to them another—the physically elevating result of psychological elation—we have all the tips we need for interpreting so-called "poor" postures and all the aids we need for heping to develop more acceptable ones.

In contrast to these basic assumptions, upon which any thorough reeducation program must be based, how unimpressive are the arguments that have been waged, pro and con, of toeing out, of the relation of the abdominal wall to tilting of the pelvis of muscle group strength—testing devices, e .., etc., in relation to modifying a person's posture or psychophysical health?

How can we make use of these larger concepts in corrective physical education or corrective therapy? When working with children one can think of the human body as developing. When working with adults one must think of the human body as trying to hold its own against such odds as illness, accident or psychophysical depression. Every time it has a set-back it must recuperate or be rehabilitated. We, as corrective therapists, may have to share in this process of recovery. What shall be our techniques as far as posture improvement is concerned?

Firstly, we shall not worry about fancier ways of grading postures than the "vertical line test" of Bancroft. We may observe a person when he is trying to stand well. When he is viewed from the side, if an imaginary plane bisects the head at the tip of the mastoid, passes through the front of the shoulders, the great trochanter, and just back of the patella, and falls about one inch in front of the external malleolus,[11] we must give him a C at least. If he cannot assume such a pose, we must consider that he fails our test. If he can maintain such balance of body parts while walking, we may give him a B. If he continues to hold such

poise while executing simple gymnastic exercises, we may give him an A. We may not be using a new grading scheme, but we are using a good one. It might be well to project another imaginary plane in an anterior-posterior direction. It will be the true sagittal plane in those for whom we have no concern for rotorolateral displacements. The sooner consideration is given, in judgements about posture, to imbalance in any direction, and to carriage in motion as well as in poses, the better.

Secondly, we shall emphasize the trunk development before the development of arms or legs. Particularly shall we make sure that the spine develops and retains its total extension. This will mean appreciable hyperextension in the lumbar region. When a person must lie in bed for only a few days, we must make sure that his bed does not sag, and that his trunk is raised from the hips, not buckled forward, when his head is lifted. During every exercise period a few minutes will be given to lying on the back with an "extension" roll placed at the location of greatest flexion in the spine. In all programs to improve the status of the trunk, as much attention will be given to the spinal muscles as to the abdominal ones, the gluteals and the muscles of the shoulder girdle.

Thirdly, whenever any part of the body is affected by injury or disease, or lost by amputation, consideration must be given to the postural consequences to the rest of the body. All joints must be maintained in their correct anatomical positions during treatment.[12] Furthermore, pain must be given serious consideration to prevent awkward positions for protection and relief.

Fourthly, more attention must be given to the extensor reflex at least. While a person lies in bed it must be possible for him to press the soles of his feet against a board placed at right angles to his mattress. He shall be instructed to do so often. If his involvement allows, he shall get out of bed and stand as erectly as possible frequently, from the first day of his incapacitation. When active exercises begin in earnest, a great deal of attention shall be placed on stretches and conscious contracting of various muscles within the extensor group.[13] As soon as possible, he shall try to walk a balance beam, shall participate in hanging exercises and shall try to improve his own posture in sitting, standing, and walking before a mirror.

Fifthly, his activity program will also include some other exercises that remind one of the movements of lower animals and of human infants and very young children—creeping and skipping for example.[14]

Sixthly, he will be respected for what he is. If he is asthenic, surely he will not be expected to stand as erectly as if he is not. His exercise regime will be most carefully supervised. He may even wear foot plates and light braces to assist his muscles in holding the weight of the body against gravity until they have been sufficiently strengthened, if ever they can be.

And, finally, he shall be given as happy a time as possible while he is trying to improve his posture. It is not by chance that corrective therapy has been enthusiastically developed in institutions for psychopathic patients. It is not just activity that is welcomed. It is the uplift, both psychological and physical, that comes from physical education activities that are taught with enthusiasm. If physical education reaches its goal, the patient has a good time. When he has a good time, he is more elevated physically as well as psychologically. Physical elevation is good posture.

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Implementing Our Program

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Definition: By implementing, I mean to accomplish, to carry out, to perform the steps necessary to insure function.

What is our program?

In the corrective therapy branch of physical medicine we are applying medically designed and prescribed exercises aimed toward obtaining and maintaining the best possible degree of physical fitness during convalescence from disease and/or injury. Our work is with the unaffected part.

We can view this as a demand for a type of active exercise designed to affect the muscles, the heart, the lungs, the metabolic and the nervous systm—to augment these parts of the body. If we stop here, we rightfully earn the title of "muscle men".

We can also interpret our program as having to do with the emotional side of the patient. We can sense his feeling of insecurity, frustration and other psychic phenomena which accompany illness or injury. Perhaps we can appreciate the psychological trauma which results from illness or injury. If so, we can set out as teachers and counselors to overcome these psychological blockages to recovery. We can show the patient who has had a serious abdominal operation that his head, neck, arms, legs, and feet are intact, and movement in these parts actually makes him feel better. Still using prescribed exercises, we can show him when he first becomes ambulant that many of his fears as to his strength, endurance, etc., were unfounded. We can overcome his psychological trauma.

Or take the patient who has lost a limb—his hand, for instance. How much work can be done with only one hand? I believe Kessler allows 80%. It isn't good, but even with one hand and a prosthetic device to assist the good hand, there is much he can do. Now here is where we bring in another important objective of our work and that is vocational guidance. What can you offer the man with only one good hand? **Job Placement of the Physically Handicapped** by Bridges gives you material which is part of your treatment. Oh, but the handicapped have many accidents in industry, etc. But, do they? What can you tell him about studies along this line which, if the individual is trained for the job which fits him, show the handcapped to have no greater accident rate than the normal? It is true that OT deals with work therapy, and they are no longer glorified weavers, but there is no reason why you can not add your knowledge to the picture. After all you have a responsibility for the patient's vocational adjustment and for his emotional health.

What about the social side of the picture for the paraplegic, for the amputee, etc.? Surely we are developing muscles, for use of these muscles and better use of the body tends toward better social adjustment.

In short, our program of making the patient more fit has to do with the physical, the social, the emotional, and the vocational fitness of the patient. I might even add that as teachers, we should be alert to recognize any problems pertaining to the patient's fitness needing investigation.

What skills are necessary for implementing our program?

Primarily we are concerned with skills pertaining to exercise. If so, how well up are we on our physiology of exercise and especially, physiology of exercise of the sick and injured? Have you digested thoroughly Smart's article in the July '47 Archives "Influence of Muscle Action on Tissue Repair?" and are you familiar with Schneider and Karpovich's new **Physiology of Exercise?** Let's stop complaining about P. T. encroaching on our field until we are doing a good job in this field.

What are you doing to prevent wheel chair posture? Are you getting fracture cases for work on the unaffected parts? If not, have you thoroughly sold your physiatrist that you can handle these cases? I know your thoughts but all physiatrists are not sitting in their offices; most are going about and getting patients.

What about your psychological skills? Do you use every known teaching device for motivating your patient? I might even say, do you practice good educational procedure? Motivation, readiness, insight, etc. are terms which should be meaningful. Are the exercises meaningful to the patient? What patient will be

aroused to action by a stereotyped robot? Does the patient miss you if you don't come to him to give him his exercise?

I mentioned vocational guidance as one of our goals. What skills have you along this line? Are you teaching the individual with a compression fracture of the lumbar to maintain the proper pelvic tilt in order that he will use his back muscles correctly? Are you teaching him how to develop his back muscles; how to lift with his legs, etc.? Are you teaching the leg amputee to use his prosthesis so that he can use a nearly normal gait? Remember, he is concerned about his vocational proficiency. Do your exercises contribute to satisfying his needs?

What are you doing to help the individual in his acquisition of skills which will be useful in sports and at the same time increase his fitness? The P. T. has relieved the shoulder of adhesions and he should have something to strengthen the shoulder girdle. How about horseshoes as a measure of exercise tolerance? Why not teach the patient how to hold and how to throw properly the horseshoe? Let's have some social satisfaction as well as the physiologic benefit of the activity.

Perhaps the polio case has progressed to the point that he can have something beyond water therapy. Can he swim? While there may be a question of whether special services or corrective therapy has the case at this point, I have in mind the necessity of using sport skills as a part of the exercise therapy. Perhaps it would be better expressed to say that while we are using certain sport movements as therapy, we should be sure that we teach the correct sport skill fundamentals.

Here again, I have in mind the satisfaction which comes from performing a sport activity successfully. We should be cooperating with special service so that when we turn the individual over to special service, he has strength to hold his bat for softball and has had practice in swinging the bat in the correct manner. When he is turned over to special service for swimming, he should have had some recreational therapy training in swimming skills.

As a part of our corrective therapy, we should be conditioning the patient in order that he is fit for sports, has some fundamental skills, and thus can reap some of the social, emotional, and physical benefits of sport activities which special services can provide.

Before we can say our program is really functioning, we must have some measurement. Let's call it "Evaluation". What proof have we that the V. A. would not be just as well off or no worse off if our program was not in operation? Are we realizing our goals? Are we preventing deconditioning and maintaining general body fitness with our bed patients? How well are we doing it? How are we doing it? Do we have weekly staff meetings where cases are carefully studied and reported upon?

What have we done to prove that ambulation with medically prescribed exercises is more effective than ambulation alone? How effective? Is more strength and endurance developed with exercise during early ambulation than without exercise? Do you agree with DeLorme's change in exercise procedure which is so well written and illustrated in the May '48 Archives? What figures have we on Progressive Resistance Exercises?

What can we expect in the way of cardiovascular endurance, respiratory endurance, agility, and other measures of fitness due to the exercises we are using?

Special service has been granted permission to use mildly active participation for TB cases and these patients are being given bait and fly casting, archery, etc. Why can't we sell the doctors on mild exercises for posture, for foot and leg muscles, etc.? In short, what are we doing in the way of measurement? Are you giving your full support to any questionnaires or studies which any of the V. A. men are making?

Implementation is linked with perspiration and is definitely augmented by inspiration. Are we doing our job in the most effective manner? Do we have our objectives clearly in mind? Are we earnestly trying to improve our knowledge and our technique? If so, I am sure implementation is reaching the functional stage.

Corrective Therapy In An Integrated Program for Neurological Patients

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INTRODUCTION

The primary purpose of this talk is to attempt to show in some measure the results which can be achieved with neurologic, and more specifically, hemiplegic patients. Naturally, therapeutic exercise is responsible for a great share of the credit, but much of the success of any program is due to other factors, some of which involve the physical setup, interdepartment relationships, and on our program, the use of volunteers and the recreational program.

It is these other factors which I particularly wish to stress, and so, except for a brief resume, I will forego any discussion on treatment, which is much the same in our hospital as others I have read about, heard of, and observed.

PHYSICAL SETTTING

The Rehabilitation Center of the Minneapolis VA Hospital is comprised of four barrack type buildings, located side by side and connected by a hall which runs perpendicular to the end of each building. Two of these building are used for hospital wards; one consisting of patients who are ambulatory, and the other of bed and wheel chair patients who are just starting the rehabilitation process. It is the policy to graduate the patient from one ward to the other as he progresses in his rehabiliation. The third building is used for the dining room and the fourth the corrective gym, which is equipped with the usual corrective apparatus.

The advantage of a separate unit for the rehabilitation patient cannot be overestimated. He is placed in a group setting with patients of like disabilities in various stages of recovery, with whom he can associate and compete. He is under the constant supervision of trained rehabilitation personnel, all aware of the goal set for him, and directing their efforts toward that end. Any behavior changes are quickly noted, consultations held, and therapeutic procedures instituted; recommendations are made to the entire rehabilitation staff who work together to carry out therapeutic procedures. Having had the opportunity of working with patients quartered in semi-private rooms and lacking facilities for group relationships, I can attest to the higher morale and superior results since they have been quartered and treated in a group setting.

The proximity of the various buildings also gives the corrective therapist an opportunity to observe the patients' application of ambulation and self care activities learned in the gym to practical uses in the ward and dining hall. The accessability of the social, medical, speech and nursing records, and personnel are also of inestimable value.

COORDINATION WITH OTHER DEPARTMENTS

Just as the successful rehabilitation of a patient is dependent on his treatment as a whole individual, so the success of a rehabilitation program rests on the establishment of harmonious relationship and coordination between the various departments effecting the rehabilitation.

From the time of referral until the time of discharge, the corrective therapist keeps in constant touch with the patient's doctor, informing him of the patient's physical progress, his emotional readjustment, and any special problems which might arise in the Corrective Therapy program.

A lack of rapport with the Nursing Service can easily result in the complete breakdown and failure of a self care program. For example, it is quite common for a patient to attach no significance whatever to the activities he learns in Corrective Therapy to those involved in his everyday life. Therefore, it is perfectly natural for him to get out of his wheel chair and on an exercise table or to use the toilet facilities alone in Corrective Therapy, and to ask for and receive assistance in performing these same activities in the ward. Naturally when the patient goes home his wife becomes the attendant. We know this to be a fact from Social Service reports.

This point very clearly illustrates the necessity of close coordination with the Nursing Service. This is accomplished through daily conferences with the nurse and close supervision by the corrective therapist.

Social Service assists in combating this problem by introducing the family to the corrective therapist. They are invited to the gym where they see the patient in action. Here they receive instructions as to the exercises which can be carried on in the home and what assistance, if any, should be rendered. The corrective therapist also makes inquiries concerning obstacles at home with which the patient may have difficulty. Many times these are overcome in the gymnasium. On occasions, however, it has been necessary to construct railings on the stairs and install special apparatus for the use of toilet facilities. The Social Worker has been able to get these accomplished through the use of various service organizations where the financial resources in the family were inadequate. The Social Worker also keeps the corrective therapist well informed on patient-family relationships, and any special problems which might be reflected in his exercise program. This point is well illustrated by the patient who, after showing considerable progress, suddenly became disinterested. This was brought to the attention of the social worker, who discovered that the family had rejected the patient and had suggested that he show as little improvement as possible, and thereby remain in the hospital.

The proper ground work for the return home is important in establishing a good family understanding and relationship and thereby preventing unnecessary readmissions. This is effected by both the corrective therapist and the social worker as indicated above. The importance of this ground work is reflected by the readmission of only one hemiplegic patient to date. When there is no home to which the patient can return, the social worker turns to other resources such as soldiers' homes, private convalescent homes, or domiciliary hospitals. This is important to the corrective therapist in keeping the program free of permanent boarders.

A considerable amount of speech therapy is carried on by the corrective therapist and volunteer worker with the aphasic patient. Assistance in the methods and procedures used is suggested by the speech pathologist.

The various members of the Physical Medicine team discuss problems involving individual patients during three weekly meetings, and a close liaison is maintained through the physiatrist.

Scheduling is a corrective therapy function with all services who require a portion of the patient's time submitting their schedules and subsequent changes to the Chief of Corrective Therapy. This method permits the patient to utilize the remainder of his time, to the extent of his needs and capabilities, in the corrective gym. The average patient spends about 2½ hours daily in the gym. Arrangements are made with other departments so that rehabilitation patients are not scheduled from 1:30 to 2:30 to allow a full participation in the recreational program. Special Services carries on an evening program of activities to complete a full day's schedule.

The schedule of the corrective program is so arranged that exercises are given from 8 to 11:30; supervision and observation of dining room activities from 11:30 to 12:00; recreation from 1:15 to 2:45; refreshments from 2:45 to 3:00; and exercises again from 3:00 to 4:30.

THE EXERCISE PROGRAM

The corrective gym is located adjacent to the two rehabilitation wards and is easily accessable to them. It comprises 3/5 of the building with

the remaining space being used by Occupational Therapy and Speech Therapy, and can accommodate 20 patients at a time for exercise and 40 for games.

The average hemiplegic patient is referred to Corrective Therapy from 3 to 6 weeks after the accident, depending on the extent of the lesion. If he is still a bed patient precautions are taken that the affected limbs are maintained in the proper anatomical position. Quadriceps and foot exercises are started immediately.

The first day in Corrective Therapy is spent in examining the patient and noting his limitations for comparative purposes at a later date. Generally the initial exercises are very mild, most of them being accomplished through assistance by the therapist but more generally by the patient through pulley therapy. As voluntary movement returns to the affected leg resistance is applied and standing exercises are started. Following this the patient learns to walk in the parallel bars, first with assistance and later alone. Next the therapist teaches him the proper walking technique and then turns him over to the volunteer for practice and gaining confidence in his ability to walk alone. During this entire process self reconditioning exercses are added and propensed as his strength increases. The final weeks of his hospitalization are spent in improving his gait and increasing his endurance.

VOLUNTEER WORKERS

A rather unique feature of the Minneapolis program is the extensive use of volunteer workers. They play an increasingly important role in the Corrective Therapy unit. The need for such volunteers was realized in the early stages of the program, and the problem of supplying the need was solved by the Legion's Auxiliary. Starting in August, 1946, with one volunteer per day contributing two hours, the average has increased to four per day, each working five hours. This organization has increased from seven in August, 1946, to forty as of now.

After a prescribed course in hospital methods, procedures, administration, and volunteer-patient relationship conducted by the VAVS Committee, the volunteer is sent to Corrective Therapy. Here she receives from the corrective therapists additional introduction regarding her duties. Next, she is assigned to another volunteer for supervised practice and observation of methods and procedures. When she fully understands her duties and how they are accomplished, she is permitted to work independently. In addition, meetings are held monthly for the purpose of orienting volunteers to the function of each member of the rehabilitation team and dispensing pertinent information in regard to her work.

All duties performed by volunteers are first cleared by medical permission and involve the following: Assisted ambulation ,passive range of motion for the upper extremities, self care activities, feeding activities, and bringing patients from their wards to the gymnasium and back again. They also conduct the games under the close supervision of the corrective therapists. Two volunteers assist each morning with the duties outlined above, with four being required for the games in the afternoon and the exercises which follow. All secretarial work done in Corrective Therapy is accomplished by volunteer help.

The volunteer program, in addition to its value in Corrective Therapy, has been a force in bringing to the public the obvious advantages of the entire rehabilitation program.

RECREATIONAL THERAPY

Neurologic patients show strong tendencies toward group associations and require situations which will place them in direct contact with patients of like disabilities with whom they can associate. The recreational period was an outgrowth of this need and was directed in particular toward patients incapable of exercise and patients not yet on the exercise program, as a process of resocialization. It was soon noted, however, that other factors of therapeutic value were entering the picture. Patients who were only lukewarm in regard to exercise became enthusiastic in competing with other patients during the game period. This enthusiasm was carried over to the exercise period. Right sided hemiplegias having difficulty learning the use of their left arms became increasingly proficient in their ability to coordinate in hand and eye movements. Patients lacking finger dexterity and coordination learned to throw darts and balls with increasing accuracy at fixed objects. Those who had withdrawn from associations with others learned to live again with their fellow patients. Finally, the games are used as a means of

initiating new patients to the Corrective Therapy program, acquainting them with other patients, increasing their tolerance in sitting up for longer periods of time, and as an outlet for feelings of agression.

The games are conducted as part of the Corrective Therapy program in the corrective gym. After the room is cleared of aparatus, the patients are brought in and placed in four semi-circles, each group being of like physical ability in terms of proficiency in the games. Chairs are placed in their proper position for those patents who are ambulatory with the remainder using their wheel chairs. An object such as a dart board, box, pail, Indian club, or a ringer peg is placed in a position equidistant from all players and such things as darts, balls, or quoits are thrown at the object. The games are varied by changing the types of darts and dart boards, and sizes of pails and boxes, and using different balls, such as golf, ping pong, soft, tennis, and baseballs. While the games remain essentially the same, the variations number at least a hundred.

Each group makes three rounds with each patient getting 4 or 5 throws on each round and then the game is passed on counter-clockwise to the next group. The four games require one hour, after which inexpensive prizes are given to the top three in each group. The prizes are contributed to the program by the American Legion Auxiliary.

Great care is taken to eliminate the domination of any group by one individual. As soon as a player shows a tendency in this direction, he is moved to a higher group, and reversely, any patient who fails to compete on equal terms with his group is moved down. Only in the highest group, where the domination of a player cannot be corrected by moving him up, or in the lowest group, where he cannot be moved down, does this procedure fail. The incidence of such inequalities, however, is rare, and does not present a formidable problem in fair distribution of prizes and the frequent satisfaction of winning by all patients.

Four volunteers, one in charge of each group, conduct the games and keep score. The corrective therapists supervise them by moving from group to group, making suggestions and corrections as to how the volunteer might improve.

At the conclusion of the recreational period, the Red Cross serves hot and cold drinks and doughnuts, after which the exercise program begins again. The period starts at approximately 1:15 when the patients are brought to the gym, and is concluded at about 3:00 p. m.

STATISTICAL DATA

Some 35 to 40 different neurologic disorders have been referred to Corrective Therapy to date. For the purpose of treatment, however, they fall quite naturally into five general classifications.

These groups are hemiplegia, which includes thrombosis, embolisms, hemorrhages, brain tumors, and trauma cases. This group comprises 48% of the total. Ataxias, in which are included cerebellar cases, M. S., Tabes Dorsalis, sub-acute combined degeneration, etc., comprising 26%; paraplegias which include cord tumors and trauma, 14%; hyperkinetics composed of Parkinsons Disease 7%; and the flaccid group which include Guillian-Barre's and various neuritis cases, 5%.

Approximately 200 neurolgy patients have been referred to this program, of which 11% are Spanish American War, 11% World War II, and 78% World War I. Upon referral 85% could not walk. Upon discharge only 15% could not walk. Included in this 15% are those that died and those patients for whom the eventual goal of walking was extremely doubtful.

With most of the early patients being chronic, the discharge rate for the first few months was very low, averaging three per month for the second half of 1946. However, as these patients were discharged, the rate increased to five for the first half of 1947, to 7.3 for the second half of that year, to the current rate of 10.2. No thorough analysis has been made of these figures, but it is assumed that the increase is entirely due to the rehabilitation and placement of chronic patients, and advancements made in the treatment given.

The following statistical information applies to hemiplegia patients exclusively. This study is the result of data obtained through the use of the attached form.

Three separate classifications are used for the purpose of comparing what the patient could do at the time of referral, and what he had accomplished at the time of discharge. The chronic group includes the patients who were at the hospital when the program was initiated, and who had been hospitalized for

1½ to 5 years. The previously hospitalized group contains those patients who were referred to Corrective Therapy after spending a period of time in some other hospital. Their hospitalization prior to their admittance to the VA was 6 months to 1½ years. The acute group is comprised of patients sent immediately to the Veterans Hospital after their accident. While none of the patients used in this study could walk when referred, at the conclusion of their treatment they could all walk.

SELF CARE

	Chronic	Prev. Hospitalized	Acute
On referral	30%	22%	15%
On discharge	60%	80%	88%

The first graph on self care brings out the fact that while chronic patients score higher than the other groups on the initial score, they fall far short of these same groups in their ability to learn the more advanced activities. The acute group which can do very little upon referral, achieves the highest score at the time of discharge.

AMBULATION

	Chronic	Prev. Hospitalized	Acute
On referral	18%	15%	8%
On discharge	65%	84%	93%

The next graph on ambulation follows the same pattern with the chronic scoring highest and the acute patient scoring least on the initial test, with the reverse being true at time of discharge. The relatively lower scores in comparison with self care reveals the difficulty that the hemiplegic patient experiences in learning to walk without the guidance of trained personnel.

AVERAGE HOSPITAL DAYS

Chronic	357
Previously Hospitalized	190
Acute	112

The third graph in this group (figure 5) brings out quite clearly the value of early treatment. Whereas the chronic patient is capable of learning least, he requires three times the hospitalization the acute patient needs. Even the previous hospitalized patient suffers from the lack of early treatment as is reflected by his lower score and longer hospitalization. I might explain that the average hospital day spent by each of these groups and particularly the chronic group might have been lower except that lack of a place to go and other factors interfered with an earlier discharge.

AMBULATION STATUS HEMIPLEGIC PATIENTS

Ambulatory	90.2% learned to walk
Non-Ambulatory	9.8% failed to walk

Of the entire group of hemiplegic patients thus far referred, only 9.8% have failed to learn to walk. None of these patients failed because of physical reasons. A careful study of this group revealed that three died, three were referred to the Acute Service, and two failed because of personality difficulties. It follows that, barring death or illness, one can almost certainly expect all hemiplegic patients to learn to walk again. For in the group which learned to walk there were numerous patients whose disabilities were increased through other conditions, and who exceeded the goals set for them. To mention a few:

1. Hemiplegia—amputation below knee, other side.

2. Hemiplegia—amputation above knee other side; amputation of half the foot on the affected side; and diabetes.

3. Hemiplegia—complete blindness; brain tumor.

4. Hemiplegia—brain tumor, poliomyelitis, subarachnoid hemorrhage.

5. Hemiplegia—grade IV heart; result of severe rheumatoid heart disease.

In addition, while many of the remaining patients were cardiac cases, this condition did not contraindicate following the normal program on a slower basis.

PERCENTAGE HEMIPLEGIC PATIENTS NEEDING BRACES

No brace	67%
Short leg	31%
Long leg	2%

One of the common disabilities in the hemiplegic patient is an inversion and foot drop of the affected side. A survey of 100 hemiplegic patients referred reveals that one out of every three requires a brace, and of this number 2 required a long leg brace. However, it is pointed out that though a patient may be able to walk without a brace, if he shows an inclination to turn the ankle on rough surfaces, a short leg brace is generally ordered for him. With all patients requiring quadriceps exercises and most of them lacking full voluntary extension of the knee it also serves to illustrate that

with proper exercise one can almost certainly expect a return of function in this movement for the purpose of walking. Of the two patients requiring a full length brace, one had a leg injury and the other, such extensive cerebral damage that it was not expected that he would walk again.

In the final analysis, a program is judged in terms of the results achieved. These results, of necessity, must include the eventual departure of the patient from the hospital if the program is to be kept active. I might point out a rather interesting parallel to the previous slide on ambulation. (See figure 6). The percentage figures on those taught to walk against those who did not are almost duplicated by those who achieved their goal against those who did not; a rather significant point, I think, of the importance of the role played by the corrective therapist in the eventual discharge of the hemiplegic patient.

SUCCESS AND FAILURE HEMIPLEGIC PATIENTS IN REGARD TO ACHIEVEMENT OF GOAL SET

Achieved goal set	90.9%
Returned home	81.8%
Other reasons	5.9%
Did not achieve goal	3.2%

Of approximately 100 hemiplegic patients, 90.9% achieved the goal which was set for them. Of this total, 81.8% returned to their homes, with the remainder going to private convalescent homes, Soldiers' Homes, and Domiciliary Hospitals. 3.2% did not achieve the goal set for them, and can be classified as failures. 5.9% might be classified as failures for other reasons, namely, death, acute illness, and personality.

From the foregoing discussion the following points are to be emphasized:

1. Early treatment results in greater and faster learning in a shorter period of time.

2. A separate rehabilitation unit increases morale, speeds recovery, and gratifies the need of associations with patients of like disabilities.

3. Close coordination of the various departments is essential in coordinating the activities learned to practical uses and in achieving the goal set for the patient.

4. Volunteers can make a definite contribution in increasing the amount of treatment given, lessening the amount of routine work the corrective therapist must do and providing an outside stimulus by keeping the patient in contact with the community. Volunteers should not be used or thought of as a substitute for trained personnel.

5. Recreational activities are instrumental in maintaining a high morale, introducing the patient to the program, as a process of resocialization, and as a means of giving the patient the feeling of belonging to a group.

6. Families should be indoctrinated in their approach to the patient and should be taught exercises which can be carried on in the home.

7. Chronic patients, even after years of inactivity, can be taught a considerable amount of self care and ambulation, and returned home.

8. Behavior changes may be of importance and should be reported immediately.

SUMMARY

In conclusion, it can be positively stated that rehabilitation works, not only with war injuries as proven by Col. Rusk in world War II, but in the Neurology Service at the Veterans Administration Hospital in Minneapolis.

Corrective Therapy is well aware of the contributions which are made by Social Service, Physical Therapy, Occupational Therapy, Manual Arts Therapy, and the Nursing Service as a team in the total rehabilitation of each patient. However, Corrective Therapy claims a great share of credit for this success, for when it demonstrated that it could teach chronic patients to take care of themselves and to walk again, it was of great significance to everyone interested in rehabilitation and gave impetus to all groups associated with this type of work. With the introduction of group therapy during both exercises and recreation periods, it revealed new possibilities in corrective treatment, and sustained morale and motivation at a level hitherto unknown among neurological patients. Its concern for the whole individual over a single part has been instrumental in gaining the patient's confidence, instilling hope, and thereby affecting the recovery of many patients. By keeping the Rehabilitation Service free of chronic patients through frequent discharges, it has been of great value to all Services associated with rehabilitation at this Hospital.

SELF CARE

1.	Change position in bed	
2.	Feed self	
3.	Wash hands and face	
4.	Brush teeth and comb hair	
5.	Write name and address	
6.	Use telephone	
7.	Sit up for six hours	
8.	Get from lying to sitting position	
9.	From sit on bed to stand	
10.	Tie pajama bottoms	
11.	Put on and take off shoes	
12.	From bed to w/chair to bed	
13.	Sit and arise from armless chair	
14.	Put on and take off pajama bottom	
15	Put on and take off pajama tops	
16.	In and out of chair at table	
17.	Shave self	
18.	Pick object off floor	
19.	Use toilet w/o assistance	
20.	In and out of car	
21.	Tie shoes	
22.	Put on and take off braces	
23.	Clothe self completely	
24.	Take bath w/o assistance	
25.	Get from floor to stand	

AMBULATION

1.	Arise and stand w/aid in par. bars	
2.	Arise and stand w/o aid in par. bars	
3.	Shift weight from foot to foot in parallel bars	
4.	Walk in par. bars with assistance	
5.	Walk in par. bars w/o assistance	
6.	Walk with assistance of Instr.	
7.	Walk w/o assistance, Instr. by side	
8.	Arise to stand from w/chr. w/o aid	
9.	Walk alone using crutch	
10.	Climb stairs with railing	
11.	Climb stars w/rail backwards	
12.	Walk sidewards and backwards	
13.	Walk alone using cane	
14.	Walk on ground and carpeting (rugs)	
15.	Open and close door from stand	
16.	Climb bus steps	
17.	Climb curb	
18.	Climb steps w/o hand rail	
19.	Discard wheel chair	
20.	1 point for following distances	
21.	25 | 50 | 75 | 100 | 150 | 200	
22.	300 | 400 | 500 | 600 | 700 | 800	
23.	1 point for following times—48 ft.	
24.	85 | 80 | 75 | 70 | 65 | 60	
25.	50 | 45 | 40 | 35 | 30 | 25	

Date						
Self care						
Ambulation						
Date						
Time						